

## 2. A MONOGRAPH OF THE GENUS LASIURUS.

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The object of the present memoir is rather to enumerate and describe all the species at present arranged under the above name, than to enter into the claims of the group to be considered as a distinct genus.

An attempt is also made to give a tolerably correct synonymy; but there are so many descriptions which appear to refer to varieties only, as to render this part of the work by no means easy, and not altogether satisfactory. Attached to the account given of the first species on the list—*Lasiurus noveboracensis*—will be seen a rather voluminous list of synonyms; and it may appear as if undue regard had been paid to the labours of other writers, in thus reducing to one species what has by them been considered as constituting at least six. But in the examination of a large number of examples, I have felt myself quite unable to come to any other conclusion than the one here given. The various descriptions apply to the same species under the influence of the climate of different degrees of latitude. Thus the *Vespertilio noveboracensis* answers well to the account given of it in its proper locality; but as we proceed southward, we find that a Bat occurs, having precisely the same form and size, but differing somewhat in the colouring of the fur; and this difference continues to increase until we reach the tropical parts of America, where a *bright ferruginous* colour completely supersedes the original *hoary-brown*, or, as it might not improperly be called, *roan-colour*.

At various localities it has been met with by travellers, and the colour of the fur varying with most of them, has given rise to the great multiplicity of names. A large series has passed under review whilst preparing this paper, and the most exact and rigorous examination, both externally and internally, has failed to afford any material difference, beyond that of colour.

I have already referred this to the effect of climate; but it is necessary to add, that the colour of the fur is so capricious, even in the temperate parts of North America, that Major Le Conte, when describing specimens from the vicinity of Philadelphia, found the varieties so perplexing, that he could give no very definite description.

However, it may be stated, that *generally* the North American examples are some mixture of brown or rufous, thickly sprinkled with white, giving a hoary appearance; whilst those from Tropical America are almost uniformly of a bright ferruginous hue, without any mixture of white.

## 1. LASIURUS NOVEBORACENSIS, Erxl.

*Vespertilio noveboracensis*, Erxl. Syst. Règ. Anim. p. 155, 1777; Harl. Faun. Amer. p. 20, 1825; Godm. Amer. Nat. Hist. i. p. 50, 1826; Fisch. Synop. Mam. p. 114, 1829; Coop. Ann. Lyc. N. H. New York, iv. p. 57, 1837; Le Conte, Proc. Acad. Nat. Sci. Philad. 1855.

*New York Bat*, Penn. Arc. Zool. p. 184, 1792; Synop. Quad. p. 367, 1771.

*Vespertilio rubellus*, Palisot de Beauvais, Cat. Peale's Mus. 1796.

*Vespertilio lasiurus*, Linn. edit. Gmel. 1788; Schreib. Säugt. 1826; Geoff. Ann. du Mus. viii. p. 200, 1806; Desm. Mam. p. 142, 1820; Fisch. Synop. Mam. p. 109, 1829.

*Vespertilio Blossieivillii*, Less. et Garn. Bull. des Sci. Nat. viii. p. 95; Fisch. Synop. Mam. p. 110, 1829.

*Vespertilio Bonariensis*, Less. Voy. de la Coquille, 1829.

*Vespertilio villosissimus*, Geoff. Ann. du Mus. viii. p. 478, 1806; Desm. Mam. p. 143, 1820; Fisch. Synop. Mam. p. 110, 1829; Rengg. Säugt. von Parag. p. 83, 1830; Wagn. Supp. Schreib. Säugt. i. p. 536, 1840.

*Vespertilio monachus* et *V. tessellatus*, Raff. ?

*Nycticejus noveboracensis*, Tcmm. Mon. ii. p. 158, 1835-41; Wagn. Supp. Schreib. Säugt. i. p. 546, 1840; Schinz. Synop. Mam. i. p. 199, 1844.

*Nyct. varius*, Poep. Reise in Chili, i. p. 451, 1835; Wagn. Supp. Schreib. Säugt. i. p. 547, 1840.

*Nyct. Atalapha*, Raff. ?

*Atalapha Americana*, Raff. Prod. de Som. ?; Desm. Mam. p. 147, 1820.

*Chauve-souris septième*, Azara.

*Lasiurus rufus*, Gray, Cat. Mam. B.M. 1843; Gosse, Nat. Sojourn. Jamaica, p. 280, 1851.

The muzzle is of very moderate length and substance, and rather pointed; the nostrils are rather small, near together, and directed sublaterally. The end of the nose, between the nostrils, is somewhat emarginate. The ears are short, ovoid, and very much rounded at their tips, which are directed outwards. Towards the base of the front edge of the ear is a lobular projection, occasioned by a notch in the margin immediately under it, quite at the base of the ear, and contiguous to the tragus. The outer margin is continued forward along the side of the face toward the angle of the mouth, and ends near to it, in the form of a moderately developed lobe. The tragus is narrow at its base, from which it expands evenly and rather rapidly for half its length, where, making a conspicuous angle, it slopes inwards, and comes to a narrow but rounded point, its inner margin all the time maintaining a nearly straight line, excepting near the tip, where it has a decided inward curvature. The outer marginal angle, already mentioned, is something more than a simple angle, being, in fact, a rounded projection from the crooked edge of the tragus.

The wing-membranes extend to two-thirds of the distance between the extremity of the tibia and the base of the toes.

The face is more or less covered with hair on all parts, the end of the nose and the margins of the lips only being naked. On the forehead the fur is very thick, and approaches nearly to the end of the nose. Immediately in front of the eye, is a tuft of stiff hairs,

and on the upper lip is a moustache of softer ones. - The inner surfaces of the ears are sparingly suffused with very fine short hairs, as are also their outer margins.

The interfemoral membrane is densely hairy on the whole of its upper surface, and the same peculiarity extends to the upper surface of the feet. The fur of the back also extends on to the membranes of the wings, over and beyond the tibia, but is there bounded by a well-defined line. It differs in this respect from the fur of the under surface, where it is seen to extend along the membrane beneath the fore-arm, somewhat irregularly scattered, and having the appearance of yellow down. Towards the wrist it becomes thicker, and is more especially so about the base of the fourth finger. This finger is also seen to be fringed with fine soft hairs at its base, when viewed from above; and a small patch of hair is visible at the base of the thumb.

Everywhere the fur is soft in texture, rather long, and tolerably thick. That which extends on to the under surface of the membranes, is unicoloured, and of a yellowish buff colour. A narrow stripe of fur, bounding that of the back on each side, is frequently of the same colour. But the colour of the body varies so much, that it appears desirable to give a short description of each of the extreme varieties, observing, at the same time, that every intermediate state may be met with.

*Var. 1.* Fur of the back of four colours, dark near to the skin, succeeded by yellowish brown, which is again succeeded by pale rust colour, and finally tipped with white.

Beneath, the fur is nearly similar, excepting that which is contiguous to and on the membranes. This is unicoloured and pale buff.

*Hab.* North America, "from one end of the country to the other, equally numerous" (*Le Conte*).

*Var. 2.* Similar to the last, but with the colour brighter and without the white tips to the fur.

*Hab.* The same as the last.

*Var. 3.* Fur of the upper parts nearly black at the base, succeeded by yellowish-buff, passing into bright ferruginous-red, shining and silky. That on the interfemoral membrane uniform bright ferruginous. Beneath, the fur is nearly black at its base, passing into dark brown, and tipped with bright rust-colour. The fur on the under surface of the membranes is also of the latter colour. Sometimes this variety has the chin and throat of a yellowish-buff colour, and then answers well to the description of *Nycticejus varius*, as given by Poepig.

*Hab.* South America; Jamaica; Canada.

In all these varieties a white spot is observable at the axilla. The membranes appear to be light or dark, according to the depth of the colour of the fur. Frequently the membranes of the wings,

near to the sides of the body, exhibit a singularly spotted appearance, occasioned by the network of veins being paler in colour than the portions enclosed by them. It was probably to one of these that Rafinesque applied the appropriate epithet "*tessellatus*." The example in which I have seen this peculiarity most conspicuous, was obtained in the Island of Mackinac, between Lakes Huron and Michigan, by my friend Mr. P. L. Sclater, who, knowing how much I am interested in this order of Mammals, kindly presented it to me, with other North American Bats collected by him in the autumn of 1856.

Dentition.—In.  $\frac{1.1}{6}$ , C.  $\frac{1.1}{1.1}$ , P.M.  $\frac{2.2}{2.2}$ , M.  $\frac{3.3}{3.3} = \frac{14}{18}$ .

The first pre-molar on each side in the upper jaw is small and rudimentary, and perhaps is sometimes wanting. It is placed in the angle between the canine and the contiguous pre-molar, in such a manner as not to be visible from the outside.

	1.		2.		3.		4.		5.	
	In.	Lines.	In.	Lines.	In.	Lines.	In.	Lines.	In.	Lines.
Length of the head and body...	2	1	2	1	2	2	1	11	2	7
— of the tail .....	1	11	2	0	2	0	1	10	...	...
— of the head .....	0	8 $\frac{1}{2}$	0	8	0	8	0	7 $\frac{1}{2}$	0	7 $\frac{1}{2}$
— of the ear .....	0	3	0	3	0	3	0	3	0	3 $\frac{1}{2}$
— of the tragus .....	0	2	0	2	0	2 $\frac{1}{4}$	0	2	0	2 $\frac{1}{4}$
— of the fore arm .....	1	7	1	6 $\frac{1}{3}$	1	7 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{1}{2}$
— of the longest finger ...	3	3	3	2	3	5	3	2	2	11

## 2. LASIURUS PRUINOSUS, Say.

*Vespertilio pruinus*, Say, Long's Exped. Rock. Mount. i. p. 168, 1825 (?); De Kay, Nat. Hist. New York, i.; Fisch. Synop. Mam. p. 113; Godm. Amer. Nat. Hist. i. p. 68; Harl. Faun. Amer. p. 21; Coop. Ann. Lyc. N. H. New York, iv. p. 54.

*Scotophilus pruinus*, Gray, Mag. Zool. Bot. ii. p. 498, 1838.

*Nycticejus pruinus*, Temm. Mon. ii. p. 154, 1835–41; Wagn. Supp. Schreib. i. p. 544; Schinz. Synop. Mam. i. 197.

*Lasiurus pruinus*, Gray, Cat. Mam. Brit. Mus. p. 32, 1843.

*Vespertilio cinereus*, Palisot de Beauvois, Cat. Peale's Museum, 1796.

It is not unusual to see the name of this species attached to specimens of the former, an error not easy to commit, if actual comparison of the two were made. The present one is greatly superior in size to the last, and besides this, presents some other very distinctive characters.

The head is broad, and the forehead flat; the muzzle is obtuse; the nostrils are surrounded by a well-defined rim, are directed sublaterally, and separated by a considerable interval, which is emarginate. The ears are irregularly round, their front margins projecting considerably over the forehead. Their outer or hinder margins are brought forward along the sides of the face in the shape of narrow prolongations, and terminate in two slightly projecting lobes behind the corners of the mouth. The tragus appears to offer some slight variations of form in different individuals, and even in the



same specimen I have, in one instance, observed it dissimilar in the two ears. In its general form it resembles the same part in the last species, but it is much less attenuated towards the tip, and the outer margin has a less distinctly angular projection. At its base it is of average width, from which it expands rather rapidly, and proceeds outwards for the distance of about a line, when it takes an upward direction, and becoming narrower, ends in a rounded tip. This change of direction from horizontal to vertical leaves an angle at its outer edge, which is nearly a right angle, whilst its inner edge maintains a pretty regular concave line from the base to the tip. In one instance, above alluded to, I have observed it in one ear only of full breadth at the base, and gradually curving upwards and inwards, terminate in a rounded end, about half the breadth of the base; the tragus of the other ear being of the usual form.

The membranes of the wings barely extend to the base of the toes. The thumb is rather long, and has its terminal phalange twice the length of the basal one.

The fur of the forehead extends nearly to the end of the nose. The sides of the face, and the muzzle, are moderately hairy, with a tuft of stiffish hairs in front of the eye, and a black moustache fringing the upper lip. The chin is nearly naked. A patch of fine, short, adpressed hairs occupies the inside of the ear near its tip, and the exposed surface of the tragus is similarly furnished.

Seen from beneath, the whole of the antibrachial membrane is covered with close downy hair of a yellowish colour, and fur of the same kind extends from the side of the body along the membrane beneath the arm and fore-arm, to the bases of the fingers, which, in some examples, are completely obscured by it. In breadth this band of fur varies from half to three-quarters of an inch, widest towards the fingers. Only a portion of the base of the interfemoral membrane, as seen from below, is hairy.

Viewed from above, the whole of the interfemoral membrane is hairy, as are the feet and legs, and a portion of the membrane of the wings, where they are attached to the sides of the body. The hair on the latter part, however, is of no great breadth, and its outer margin is usually straight and well defined. Over the tibia the interfemoral fur passes but to a trifling extent, and in many specimens that limb constitutes its exact boundary. In the species last described, the fur usually passes over it, and occupies a considerable space on the base of the wing.

The variations in colour in this species appear to be much less considerable than in the last. The fur of the muzzle, chin, and around the eyes, is black; that of the throat pale buffy-yellow, the line of separation of the latter colour and the black of the chin being pretty distinct. On the forehead the fur is of the same yellowish hue as that of the throat, and on the top of the head it is similarly coloured at its base, but becomes of an umber-brown colour about its middle, and is there tipped with white. This arrangement of colours represents pretty nearly the colour of all the upper parts of the body, excepting that the fur has in addition a dark-coloured

root. The colours may be thus briefly given:—dusky-grey (at the root), yellowish-buff, umber-brown, and finally white. The white is most plentiful on the shoulders, along the middle of the back, and on the rump; the yellow colour prevails on the head and neck, but becomes less in regular gradation towards the rump, where the brown in great measure takes its place, which it does completely on the interfemoral membrane.

The under surface is nearly similar, but differs in having the colours paler, the yellow less conspicuous, and the tips of the hairs buff-coloured instead of white. On the under parts, as on the upper, the yellowish colour gives way to the brown on approaching the hinder parts, and the hair on the contiguous part of the interfemoral membrane is wholly dark for the greater part of its length, and is tipped with light brown. At the insertion of the humerus is a light-coloured spot. The fur of the sides of the body, under the arms, is of a brownish-buff colour. All the fur on the wing-membranes is buffy-yellow.

The membranes are dark, excepting where there is a growth of hair, such parts being reddish-brown.

Dentition.—In.  $\frac{1.1}{6}$ ; C.  $\frac{1.1}{1.1}$ ; P.M.  $\frac{1.1}{2.2}$ ; M.  $\frac{1.1}{3.3} = \frac{12}{18}$ .

In the following Table of dimensions, column No. 1 has been taken from a specimen purchased of Mr. J. G. Bell of New York, No. 2 from a specimen in the British Museum, from the United States, and No. 3 from a specimen not quite adult, taken in Bermuda by the Rev. H. B. Tristram, and very kindly forwarded by him for my use.

	No. 1. in. lin.	No. 2. in. lin.	No. 3. in. lin.
Length of the head and body, about . .	3 6	3 10	2 10
— of the tail . . . . .	....	1 10	....
— of the head . . . . .	0 11	....	0 10
— of the ear . . . . .	0 4 $\frac{1}{2}$	....	0 4 $\frac{1}{2}$
— of the tragus . . . . .	0 3	....	0 3
— of the fore-arm . . . . .	2 3	2 2	2 0
— of the longest finger . . . . .	4 4	4 0	4 0
— of the fourth finger . . . . .	2 8	2 7	2 4
— of the thumb . . . . .	0 6	....	0 6
— of the tibia . . . . .	....	0 11	0 9
— of the foot and claws . . . . .	0 6	0 5	0 5 $\frac{1}{2}$
— of the os calcis . . . . .	0 9	....	0 7 $\frac{1}{2}$
Expanse of wings . . . . .	16 6	....	15 6

*Hab.* North America, not abundant.

Major Le Conte observes, that he has only had the opportunity of examining six or seven examples. The British Museum contains a specimen from California, and another presented by Mr. W. S. MacLeay is labelled South America. Assuming the latter specimen to be correctly labelled, its locality renders it probable that this species, like the last, is distributed over a considerable part of the New

World, and the idea is somewhat strengthened by its occurrence in California and Bermuda.

Major Le Conte has referred this species to the *Vesp. cinereus* of the Catalogue of Peale's Museum, bearing date 1796. There appears to be no doubt that it was to this species that the above name was applied, as the only other North American Bat with which it would be likely to be confounded—*V. noveboracensis*—was clearly distinguished in the Catalogue, and called *V. rubellus*. As I do not know whether any description accompanied the name of *V. cinereus*, I must for the present retain the name given by Say; but in the event of any specific characters having been added in the Catalogue just referred to, the name of *L. cinereus* must of course be adopted.

### 3. LASIURUS GRAYI, n. s.

This species, which I believe is undescribed, is in size a little superior to the larger examples of *L. noveboracensis*, but smaller than *L. pruinus*. To the latter species, however, it bears the greatest resemblance in its forms and general appearance, but differs in several respects, which will be hereafter noticed.

The muzzle is rather obtuse, but less so than in *L. pruinus*. The ears are angular-round, but more pointed than in the last-mentioned species, and have the ear-lobe near the angle of the mouth, more strongly developed. The tragus, although it presents the same general form, yet differs in having the upper or ascending part straight instead of being curved. It is also much narrower at its base.

The thumb has the same long terminal phalange and short basal one observable in the last two species. The feet are large in relation to the size of the animal. The membranes of the wings extend a little way beyond the extremity of the tibia, but *do not reach half-way along the foot*, exclusive of the toes. The extreme tip of the tail is slightly exerted, and very pointed.

The fur of the head extends down the forehead nearly to the nose; the face is moderately hairy, and has a tuft of fine long hairs immediately in front of the eye. The basal part of the hinder surface of the ear is hairy, some of the hair projecting beyond the inner margin so as to be visible from the front. Two patches of short adpressed hair of a fine nature line the inside of the ear, one of them extending from the front margin to near the tip, and the other fringing that part of the margin nearest to the root of the tragus. The latter part is sparingly covered with short adpressed hairs on its exposed surface.

The muzzle and greater part of the face are brownish-black. The fur of the upper parts is of four colours—dark at its root, then yellowish-brown, succeeded by dark brown, and tipped with white. Towards the hinder parts of the body, and on the interfemoral membrane, the yellowish colour gives way to the brown, and the fur is wholly of the latter colour, tipped with white. The throat is light yellowish-brown, passing into dusky-brown on the breast. On all the under

parts the fur is of a faded brown colour for the greater part of its length, but near the tip it becomes a little darker, and is finally tipped with dirty buff colour. The fur on the membranes beneath the humerus is in some examples of the same tricolour as the under parts of the body, but more frequently it is of a uniform brownish-yellow hue, as is that beneath the fore-arm, and that at the base of the fingers.

The hairy portions of the membranes are reddish-brown; the remaining parts very dark brown.

The variations in colour to which this species is subject depend upon the tint of the brown colour near to the tips of the hairs. In one example in the British Museum, this part of the hair is of a light red colour, inclining to pinkish, and takes up a much greater space than usual in each hair, the dusky at the base being there very much reduced. In this specimen the black of the face and the yellowish colour of the throat are scarcely observable; and this, with the red colour, gives it, at first sight, a great resemblance to the *L. noveboracensis*.

The colour of the fur is an index to that of the membranes—in this instance a reddish-brown.

The dentition has not been well examined, but the incisors are similar in number and shape to those of the last two species.

Five examples have been examined in drawing up the above description, and these are all so remarkably uniform in size, that it appears unnecessary to give the dimensions of more than two, those presenting the greatest disparity being selected.

	No. 1. in. lin.	No. 2. in. lin.
Length of the head and body, about ..	3 2	2 3
——— of the tail .....	1 7	1 8
——— of the head .....	....	0 9
——— of the ears .....	0 3½	0 3½
——— of the tragus .....	0 3	0 2¾
——— of the fore-arm .....	1 9½	1 9½
——— of the longest finger .....	3 10	3 8
——— of the fourth finger.....	2 3	2 1
——— of the thumb .....	0 5½	0 5
——— of the tibia .....	0 8	0 8
——— of the foot and claws .....	0 5	0 4½
——— of the os calcis .....	....	0 8
Expanse of wings .....	14 0	13 9

The dimensions in column No. 1 have been taken from a perfectly adult individual in the British Museum, the locality being unknown. The specimen which has furnished the dimensions in the second column is also full-grown, but nevertheless retains some indications of youth.

*Hab.* This second specimen was forwarded with another, perfectly



similar, from Chili, by Mr. Bridges. All the other specimens in the British Museum Collection are without authentic habitats.

#### 4. LASIURUS CAUDATUS, n. s.

The extreme length of the tail of this species, exceeding that of the head and body, together with the considerable length of the hinder limbs, gives to it a very remarkable appearance, and seems to distinguish it at first sight from all the others of the group.

The muzzle has much the form and proportions of that of *L. noveboracensis*. The ears are obtusely triangular, as broad as high, and have their outer margins brought downwards and forwards along the side of the face to within a little distance of the corners of the mouth, and on the same level with it. Here they terminate, as in all the preceding species, in a separated lobe, in this instance more clearly developed than usual. This part of the ear bears considerable resemblance to the same part in the genus *Molossus*, but is less considerable in degree. The tragus is narrow at its base, from which it rapidly expands, and abruptly bending inwards, leaves an outer angle and curves to an obtuse point. It differs chiefly from the same part in *L. pruinus* in having a more decided inward direction.

The wing-membranes barely extend to the base of the toes. The tail is longer than the head and body.

The fur of the forehead extends uninterruptedly in the direction of the nose, and approaches it nearly. As in all the preceding species, the other parts of the face are moderately hairy.

The fur of the back encroaches on the membranes of the wings for a distance of about four lines, where it has a clearly defined boundary. That of the under parts extends on to the membrane beneath the humerus, but has no regularly defined margin. Between the fore-arm and the fourth finger, in the angle formed by the two, is a growth of extremely short downy hairs of a yellow colour. The upper parts of the feet are moderately hairy, much less so than is usual in *L. pruinus* and *L. noveboracensis*. On the upper surface of the interfemoral membrane, the fur of the rump extends only for half its length, the remaining half being naked. Its under surface is sparingly clothed with hairs for about one-third of its length, *near to the tail only*; that part of the membrane near to the knees and the end of the tail being quite naked.

The membrane itself is rather thickly marked with transverse dotted lines.

The fur is rather long and silky; that of the whole of the upper parts is of a uniform yellowish-buff colour, brown for a short length in immediate proximity to the skin. Beneath, it is reddish-brown at the base for about a third of its length; the remainder being yellowish-buff.

Dentition.—In.  $\frac{1.1}{6}$ ; C.  $\frac{1.1}{1.1}$ ; P. M.  $\frac{1.1}{2.2}$ ; M.  $\frac{3.3}{3.3} = \frac{12}{18}$ .

	No. 1.	No. 2.
	in. lin.	in. lin.
Length of the head and body . . . .	1 9	2 0
——— of the tail . . . . .	2 0	2 6
——— of the head . . . . .	.....	0 7 $\frac{1}{2}$
——— of the ears . . . . .	0 3 $\frac{1}{2}$	0 3
——— of the tragus . . . . .	0 3	0 3
——— of the fore-arm . . . . .	1 8	1 8
——— of the longest finger . . . .	3 3	3 6
——— of the fourth finger . . . . .	2 0	2 3
——— of the thumb . . . . .	0 4	0 4 $\frac{1}{3}$
——— of the tibia . . . . .	0 8 $\frac{1}{2}$	0 9 $\frac{1}{2}$
——— of the foot and claws . . . .	0 3 $\frac{1}{2}$	0 4
——— of the os calcis . . . . .	0 5	0 6
Expanse of wings . . . . .	13 0	12 9

*Hab.* Pernambuco, from which place the specimen was received which furnished the above description, and the dimensions in column No. 1. No. 2 is from a specimen in a bad state in spirit, from Chili. I have met with no other examples than the ones here described.

#### 5. LASIURUS AGA, P. Gerv.

*Nycticejus Aga*, P. Gerv. in Castelnau, Expéd. dans les parties centrales de l'Amérique du Sud, &c., livr. 16. p. 73, 1855.

The following description is taken from that by the original describer.

Ears subround; tragus in the form of a hooked knife ("à peu près de la forme d'une *serpette*"). The nostrils are subtubular, pierced in the sides of the small nose, which is a little emarginate in the centre.

Tail, in the two specimens examined, absent, having been withdrawn from the membrane, in which a median furrow is left in its stead, from the inspection of which it may be inferred that the tail occupied the whole length of the membrane (as in the other species of this group).

The upper surface of the interfemoral membrane has some hairs on its base, as in many species of the genus *Vespertilio*; and its under surface bears some transverse lines of small follicles.

The general colour of the fur is buffy-chestnut, glossy above, and paler beneath.

	in. lin.
Length of the body . . . . .	2 4 (English).
Interfemoral membrane along its central line. .	1 9
Fore-arm . . . . .	1 7
Tibia . . . . .	0 9

I now give a description of a specimen evidently of this species collected at Ega, on the Amazon, by Mr. Bates, and labelled by him "houses, Ega." As it appears to be in a better state of preservation than the two obtained from the same place by M. Castelnau, I am

able, besides confirming the accuracy of his description, to give a more detailed scale of dimensions than he has given.

It is desirable to note, that this specimen, although probably full-grown, yet exhibits some slight indications of non-maturity.

The muzzle is a little longer relatively than in the species I have before described, and is about as much pointed as in *L. noveboracensis*. The end of the nose is small; the nostrils somewhat tubular, with a distinct notch between them.

The ears are triangular-round, and somewhat more pointed than those of any other species here described. The tragus is similarly formed to that part in *L. pruinosus*.

The wing-membranes barely extend to the base of the toes, and the extreme tip of the tail is exerted.

The fur of the forehead does not approach so nearly to the nose in this species as in the others of the group.

The basal half of the superior surface of the interfemoral membrane is hairy, but the hair does not reach laterally over the tibia. Beneath, it is sparingly hairy at the root of the tail only. The membranes of the wings contiguous to the body, both above and below, are hairy, more especially on their under surface, where the hair reaches to the elbow, but does not follow the fore-arm.

On all the upper parts the fur is yellowish-buff, the hairs slightly tipped with brownish, and on the under parts uniform yellowish-buff.

Membranes of the wings darkish brown, the interfemoral membrane being paler and marked with about twenty transverse dotted lines.

	in.	lin.
Length of the head and body, about ...	2	0
——— of the tail . . . . .	1	7
——— of the head . . . . .	0	8
——— of the ears . . . . .	0	3 $\frac{1}{2}$
——— of the tragus . . . . .	0	2 $\frac{1}{2}$
——— of the fore-arm . . . . .	1	7
——— of the longest finger . . . . .	2	7 $\frac{1}{2}$
——— of the fourth finger . . . . .	1	10
——— of the thumb . . . . .	0	4
——— of the tibia . . . . .	0	8 $\frac{1}{2}$
——— of the foot and claws . . . . .	0	5 $\frac{1}{2}$
——— of the os calcis . . . . .	0	8
Expanse of wings . . . . .	11	6

In colour this species very closely resembles the last, but, besides many minor points of distinction, the great length of the tail in the former will at once be sufficiently distinctive.

I have now described all the species that I am able with certainty to refer to this group; but there are two others described by Major Le Conte in the 'Journal of the Academy of Natural Sciences of Philadelphia' for 1855, characterized by the same formula of denti-

tion as in *Lasiurus*, but which appear nevertheless to have the other parts as in the more ordinary Bats.

One of these—*Vesp. pallidus*, Le Conte, — the writer says, has only four incisors in the lower jaw,—altogether an anomalous character, if not due to some accidental cause.

The other species is the *Vesp. crepuscularis* of the same naturalist (*V. creeks*, F. Cuv.), which, while possessing only two upper incisors, precisely as in *Lasiurus*, has yet all the other characters similar to those of *Vesp. Carolinensis*,—a species clearly appertaining to that division of the genus *Scotophilus* which constitutes Section *b.* of the genus *Vesperugo* of MM. Keyserling and Blasius.

It would appear from this that the number and form of the incisors in the upper jaw do not furnish a very valuable generic character; and when we find another species from India, not only different in its forms from *Lasiurus* and *Nycticejus* (so called), but also differing from the above-mentioned *Vesp. crepuscularis* in all respects save in the upper incisors, which are similar, we are quite justified in regarding this as a character of subordinate value in the arrangement of this difficult group of animals.

The Indian species to which I allude is referable, as far as external form is concerned, to that section of the genus *Vespertilio* which has been called *Cappacinius* by Prince Charles Lucien Bonaparte, and *Trilatitius* by Dr. Gray. It is closely affined to the *Vesp. Tasmannensis* of the latter zoologist, and may perhaps prove identical with it.

Besides the species given in this Monograph, there are several others differing materially from them, and from each other, but which have the tail-membrane hairy. As instances, may be cited *Vesp. noctivagans*, Le Conte (*V. pulverulentus*, Temm.), *Lasiurus Pearsonii*, Horsf.\* (closely affined to the *Vesp. emarginatus* of the continent of Europe), and *Vesp. suillus*, Temm., called *Murina suillus* by Dr. Gray, and *Noctilinia Lasyura* by Mr. Hodgson.

From this it must be evident that this character is only of generic value when associated with others of greater constancy, and it is only by the characters taken collectively that the groups can be truthfully defined.

The form of the head, the muzzle, and the nostrils, of the ears and the tragi, the extent of the membrane in reference to the hinder extremities, the quality and distribution of the fur, the number and form of the upper incisors, and more than all, the general conformation of the cranium, supply the means by which the *Lasiuri* may be recognized and associated.

\* In alluding to this species, I may mention, that it is the *Vesp. emarginatus* of continental writers to which I refer,—a well-marked species very similar in appearance to *Lasiurus Pearsonii*, but not more than half the size, and with less hair on the interfemoral membrane. The so-called British species is, I believe, no other than *Vesp. mystacinus*.



Mr. Tegetmeier exhibited a collection of skins of new varieties of domestic Fowls, the property of Mr. C. Darwin.

Those from the Madras Presidency were chiefly of the Malay type, more or less resembling the gigantic Kulm Fowls that were imported some years since by Colonel Sykes, and which were formerly in the possession of the Society. The Fowls from Singapore were remarkable for the recurved character of the plumage. The interior of Persia furnished a very beautiful steel-black variety, perfectly distinct from any known in this country, and which was stated to be the Common Fowl of the district. Good specimens of the black-skinned, white silky-plumaged Fowl with black periosteum were forwarded both from Singapore and Madras. Mr. Tegetmeier called attention to the fact, that all the specimens shown differed in a much greater degree, than our common English Game Fowls, from the *Gallus Bankiva*, so frequently asserted to be the origin of our domesticated species of the genus *Gallus*.

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March 10, 1857.

Dr. Gray, F.R.S., in the Chair.

The following papers were read :—

1. CHARACTERS OF SOME APPARENTLY NEW SPECIES OF AMERICAN ANT-THRUSHES. BY PHILIP LUTLEY SCLATER, M.A., F.L.S., &c.

1. FORMICARIUS TRIVITTATUS.

*Supra fusco-cinnamomeus, subtus clarior, gula pallidiore: alis caudaque nigris cinnamomeo tinctis, illarum tectricibus minoribus et majoribus fascia terminali et remigibus ipsis fascia mediali alba præditis, itaque alis trifasciatis: oculorum ambitu seminudo: rostro et pedibus nigris.*

Long. tota 7·0, alæ 3·4, caudæ 2·5.

*Hab.* In ripis fl. Amazonum.

*Mus.* Brit.

The only individual of this species which I have yet seen is that in the British Museum. It is easily recognizable among its congeners by its thrice-banded wings. I am now acquainted with seven birds which I consider to be probable members of this genus, viz.—(1.) CAYANENSIS, Bodd. ex Pl. Enl. 821 (*colma*, Gm. et Bodd., *tetema*, Licht., *fuscicapilla*, Vieill., *ruficeps*, Spix), ex Guiana et Brasilia. (2.) ANALIS (Lafr. et d'Orb.), Voy. d. l'Am. MÉR. Ois.